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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/593,566	08/16/2000	Thomas J. Edsall	112025-0195	7888

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CESARI AND MCKENNA, LLP
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EXAMINER

WILSON, ROBERT W

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/593,566

Applicant(s)

EDSALL ET AL.

Examiner

Robert W Wilson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☒ Claim(s) 6-11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

1.0 The application of Thomas J. Edsall et al. for "MULTIPLE PACKET PATHS TO IMPROVE RELIABILITY IN AN IP NETWORK" filed 08/16/2000 has been examined. Claims 1-13 are pending.

Drawings

2.0 The drawings in this application are objected to by the Draftsperson as informal. Any drawing corrections requested, but not made in the prior application should be repeated in this application if such changes are still desired. If the drawings were changed and approved during the prosecution of the prior application, a petition may be filed under 37 CFR 1.182 requesting the transfer of such drawings, provided the parent application has been abandoned. However, a copy of the drawings as originally filed must be included in the 37 CFR 1.60 application papers to indicate the original content.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3.0 Claims 1,5,12, & 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grossglauser et al (U.S. Patent no.: 6,353,596) .

Referring to **Claim 1**, Grossglauser et al (U.S. Patent no.: 6,353,596) teaches: A computer network having improved reliability in data transmissions (col. 1 line 36-col. 3 line 15)

An interpreter in a switch for interpreting a special multicast address in a packet received by said switch, said switch in response to receipt of a packet having said special multicast

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address, replicating said packets by transmitting identical copies of said packet on a plurality of ports of said switch (Core Router which supports ATM or switch receives a packet and forwards or sends multicast packets to all of the members of the multicast group which belongs to the tree based upon a special multicast address per col. 1 line 36-col. 3 line 15)

First router for receiving a first copy of said packet having said special multicast address transmitted from a first port of said plurality of ports of said switch (The core router is connected to a another node in the tree or first router per col. 1 line 36-col. 3 line 15), and a second router for receiving a second copy of said packet having said special multicast address, said second packet transmitted by a second port of said plurality of ports of said switch (The core router is connected to a another node in the tree or second router per col. 1 line 36-col. 3 line 15)

A first plurality of subsequent routers connected to said first router along an intended path for said first copy of said packet, said intended path having a plurality of links, and said links assigned a low cost in a Link State Packet Routing sense (The applicant broadly claims "low cost in a Link State Packet Routing sense". The examiner interprets "low cost in a Link State Packet Routing sense" to mean "lowest cost" route. 1st plurality of routers are routers in the multicast group of the tree which have the lowest cost or low cost in a Link State Packet Routing sense per col. 1 line 36-col. 3 line 15)

A second plurality of routers connected to said second router along an intended path for said second copy of said packet, said intended path having a plurality of links, and said links assigned to a low cost in a link State Packet Routing sense, said first plurality of routers connected to said second plurality of routers by links having assigned high costs in a Link State Packet Routing sense (The applicant broadly claims "low cost in a Link State Packet Routing sense". The examiner interprets "low cost in a Link State Packet Routing sense" to mean "lowest cost" route. 2st plurality of routers are routers in the multicast group of the tree which do not have the lowest cost or high cost in a Link State Packet Routing sense per col. 1 line 36-col. 3 line 15)

Grossglauser does not expressly call for: interprets in a switch but teaches a Core router per col. 1 line 36-col. 3 line 15

It would have been obvious to one of ordinary skill in the art at the time of the invention that the Core router must have an interpreter in order for the invention of Grossglauser to forward multicast packets or in other words to work.

Referring to **Claim 5**, Grossglauser et al (U.S. Patent no.: 6,353,596) teaches: A method of improving reliability in data communications over a computer network, comprising (col. 1 line 36-col. 3 line 15)

Receiving a voice data packet by network device, replicating said voice data packet, and transmitting replica packets onto a first link and and second link (Phone conference or voice packet per col 5 lines 52-59. Core Router which supports ATM receives a packet and forwards

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or sends multicast packets to all of the members of the multicast group which belongs to the tree or a first and second link per col. 1 line 36-col. 3 line 15)

Assigning low costs to links, including said first link, in a first desired path through said computer network, said cost used by Link State Packet Routing protocol (LSP protocol) to select a route through said network (The applicant broadly claims “Link State Packet Routing protocol”. The examiner interprets “Link State Packet Routing protocol” to mean “lowest cost” route. First link is a connection to tree element in which is a member of the least cost or shortest path in the tree per col. 1 line 36-col. 3 line 15)

Assigning low cost to links, including said second link, in a second desired path through said computer network (Second link is tree element which represents a higher cost rout or not shortest path in the tree per col. 1 line 36-col. 3 line 15)

Assigning high costs to links between said first desired path and said second desired path, so that in response to assigning low costs to said first desired path and assigning low costs to said second desired path, LSP protocol selects said first desired path and said second desired path through said network, and in response to high costs assigned to said links between said first and said second desired paths LSP does not select convergence of said first and said second desired paths when said first and said second desired paths are operative, and LSP routing selects convergence of said first and said second desired path upon failure of a link in either said first and said second desired path (The shortest path algorithm utilized by the core router determines which links are least cost or desired path. The shortest path algorithm utilized by the core router determines which links are higher in cost or second desired path. Upon a failure of a router or link the core router will determine a new shortest path which will contain a link and router which was originally in a higher cost path)”

Grossglauser does not expressly call for: convergence but teaches shortest path or least cost per col. 1 line 36-col 3 line 15.

It would have been obvious to one of ordinary skill in the art at the time of the invention that the shortest path routing algorithm of the Core router convergences to a new route based upon a failure link or router in the original tree which was in the shortest path.

Referring to **Claim 12**, Grossglauser et al (U.S. Patent no.: 6,353,596) teaches: The method of claim 5,

Grossglauser does not expressly call for: A computer readable device having instructions written thereon for practicing but teaches the method of Claim 5 as shown above.

It is within the level of one skilled in the art to implement the methods taught in the reference in hardware and software. It would have been obvious to one of ordinary skill in the art at the time of the invention to store the software on a computer readable medium.

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Referring to **Claim 13**, Grossglauser et al (U.S. Patent no.: 6,353,596) teaches: The method of claim 5.

Grossglauser does not expressly call for: Electromagnetic signals traveling on a computer network, said electromagnetic signals carrying instructions for practice

It is within the level of one skilled in the art to implement the methods taught in the reference in hardware and software. It would have been obvious to one of ordinary skill in the art at the time of the invention that the hardware or processor that is executing the instructions is utilizing electricity to represent the instructions in the processor or electromagnetic signals traveling in a computer network.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4.0 Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baumgartner et al. (U.S. Patent no.: 5,138,614).

Referring to **Claim 2**, Baumgartner et. Al. (U.S. Patent No.: 5,138,614) teaches: A network device for forwarding packets on a compute network (Fig 14)

A plurality of output ports assigned for transmitting said voice packet out of said network device in the event that a received packet carries a special multicast address in layer 2 destination address field of said received packet (The packet switch has a plurality of output ports for multicasting per Fig 14 which are multimedia packets which are both voice and video col. 13 line 25-col. 14 line 17. It would have been obvious to one of ordinary skill in the art at the time of the invention that in order for the multimedia ie voice and video to be sent on different paths the switch has to be able to differentiate between the voice and video packet in order for the invention to work).

A circuit to read said layer 2 destination address field of said received packet, and in the event that said special multicast address is found in said layer 2 destination address field of said received packet, to interpret said special multicast address as indicating that said received packet is said voice packet, and to transfer said voice packet to said plurality of output ports for

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transmission of replica packets of said voice packets through different paths in said computer network (Multimedia involving two or media such as voice and video which are routed over separate connections per col 13 line 25-col 14 line 17.

In Addition:

Regarding **Claim 3**, further comprising a network device is a layer 2 switch (Fig 14)

Regarding **Claim 4**, further comprising: said network device is a router (The examiner takes official notice that the network device is a router because it is well known in the art that switching and routing functions are integrated into the same device)

Baumgartner does not expressly call for: circuit to read layer 2 destination address but teaches Multimedia involving two or media such as voice and video which are routed over separate connections per col. 13 line 25-col. 14 line 17.

It would have been obvious to one of ordinary skill in the art at the time of the invention that circuit to read said layer 2 destination address function would have to be informed in order for the invention to work.

Claim Rejections - 35 USC § 112

5.0 The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6.0 Claims 5-12 are rejected under 112/2nd paragraph because the metes and the bounds of the claims cannot be assessed.

Referring to **Claim 5**, “assigning low costs to links, including said second link, in a second desired path through said computer network; and assigning high costs to links between said first desired path and said second desired path, so that in response to assigning low costs to said first desired path and assigning low costs to said second desired path” is confusing. What is meant by “assigning low costs to links, including said second link, in a second desired path through said computer network; and assigning high costs to links between said first desired path and said second desired path, so that in response to assigning low costs to said first desired path and assigning low costs to said second desired path”. The examiner believes that the applicant is trying to say “assigning higher costs to said second path”.

In Addition:

Claims 6-12 depend upon **Claim 5** and are also rejected.

Claim Objections

7.0 Claims 6-11 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims and the prior art rejection stated above.

Referring to **Claim 6**, the closest prior art Baumgarter (U.S. Patent No.; 5,138,614) and Grossglauser et al (U.S. Patent no.: 6,353,596) do not in combination disclose or anticipate all of the claim limitations specified in claim 6.

In Addition:

Claims 7-11 would be allowable because they depend upon **claim 6**.

Conclusion

7.0 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W Wilson whose telephone number is 703/305-4102. The examiner can normally be reached on M-F (8:00-4:30).

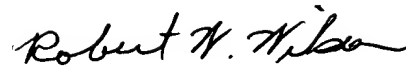
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Olms can be reached on (703) 305-4703. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

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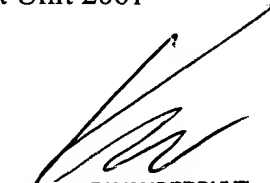
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Robert W Wilson
Examiner
Art Unit 2661

RWW
December 17, 2003



KENNETH VANDERPUYE
PRIMARY EXAMINER